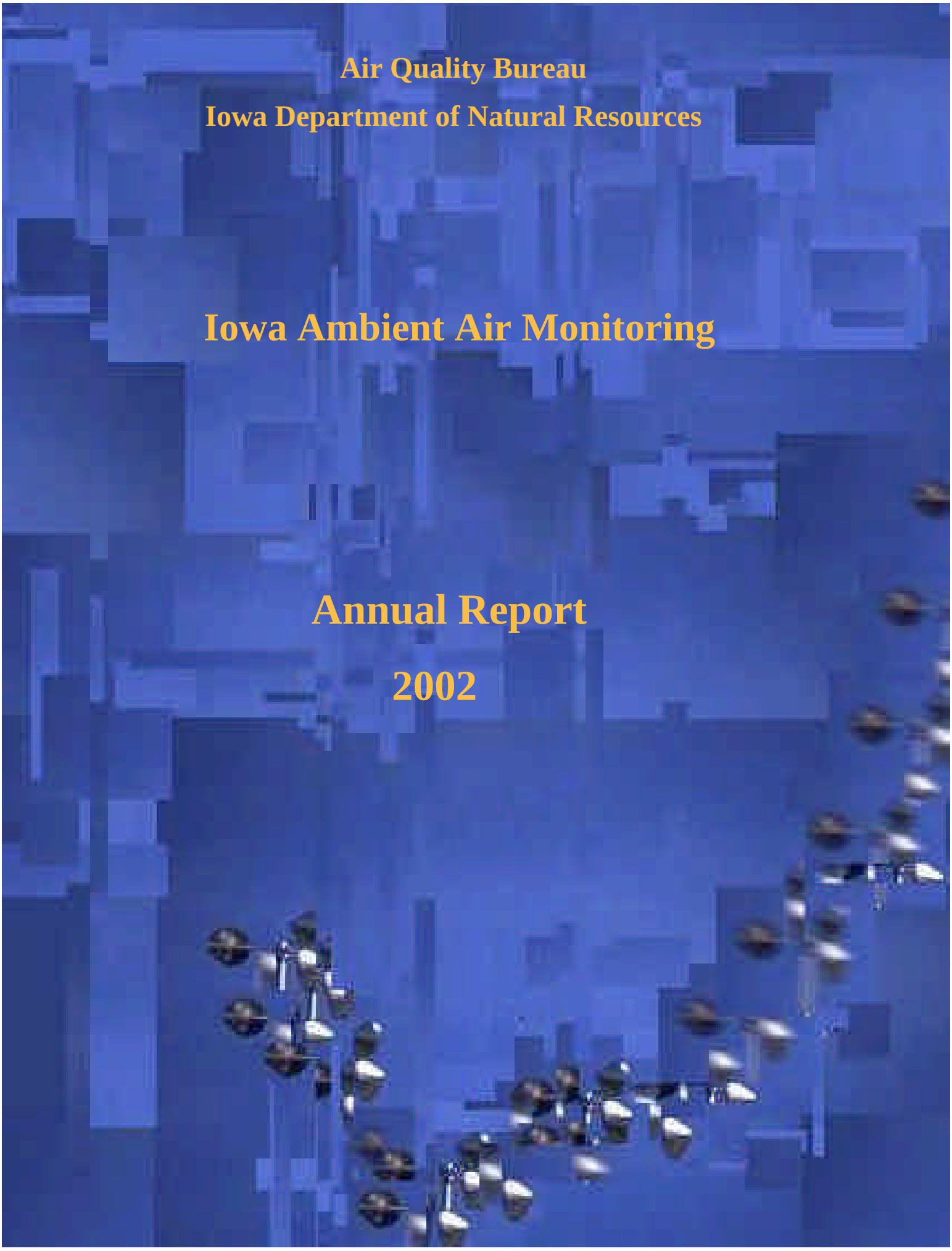

Air Quality Bureau

Iowa Department of Natural Resources

Iowa Ambient Air Monitoring

Annual Report

2002

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IOWA AMBIENT AIR MONITORING NETWORK REVIEW: 2002

by
Doug Johnson

Iowa Department of Natural Resources-Air Quality Bureau-Air Monitoring Group

Introduction

The purpose of this review is to compare ambient air monitoring data gathered in Iowa during the year 2002 with federal ambient air standards. These federal standards, known as National Ambient Air Quality Standards (NAAQS), have been established by the Environmental Protection Agency (EPA) for seven "criteria" pollutants: particulate matter with a diameter less than 10 microns (PM_{10}), particulate matter with a diameter less than 2.5 microns ($PM_{2.5}$), sulfur dioxide, ozone, nitrogen dioxide, carbon monoxide, and lead. Continuous monitoring methods have been approved by EPA for all monitoring methods except $PM_{2.5}$. Filter samplers and laboratory filter weighing procedures have been approved by EPA for both $PM_{2.5}$ and PM_{10}. All data summarized in this review was obtained using methods approved by EPA for comparison with the NAAQS.

This report is divided into two parts. The first part is an executive summary, indicating where exceedances of the NAAQS were measured in Iowa during 2002. A more comprehensive review comprises the second part of the report, which includes the location and summary data for each monitor in the network.

Gaseous pollutant monitors (ozone, nitrogen dioxide, and sulfur dioxide) and continuous PM_{10} monitors provide hourly values and operate 24 hours a day, seven days a week. Ozone monitors are operated only when ozone levels are highest, from April through October. Particulate filter samplers collect one filter per day and usually are not operated on successive days. Most PM_{10} filter based monitors are operated at a sampling frequency of one sample every sixth day, and most $PM_{2.5}$ monitors are run at a frequency of one sample every third day. Some particulate monitoring sites are run at frequencies greater than these nominal frequencies if they are located in highly populated areas or near pollution sources. Lead was not monitored in Iowa during the year 2002.

Incomplete data may skew the summary statistics for a monitor. In order to alert the reader to data completeness problems, monitors that were added or removed part way through the year have been indicated by an asterisk, and data completeness statistics have been provided for each monitor. If a monitor collected all of the scheduled samples, then it has an associated data completeness of 100%. If the data capture from a monitor is insufficient to compute a valid annual average according to EPA completeness criteria, then the bar representing the comparison of the annual average to the NAAQS for the monitor is hatched on the corresponding bar chart.

In 2002, NAAQS exceedances were measured in Argo, Clinton, Davenport, Lake Sugema State Park and Pisgah for ozone and in Buffalo and Mason City for PM_{10}. The monitored values are likely to represent a large area of poor air quality, perhaps a county or more in area.

Data used to create this report were gathered by three organizations under contract with the Iowa Department of Natural Resources: the University of Iowa Hygienic Laboratory, the Polk County Health Department, and the Linn County Public Health Department. Air pollution data for Iowa and all other states are available online at: http://www.epa.gov/air/data/. Additional information on the NAAQS is available at: http://www.epa.gov/airs/criteria.html.

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Exceedances of the National Ambient Air Quality Standards in Iowa

Pollutant	Averaging Period	Exceedance Level	Units	Number of Exceedances
Ozone	1hr	0.125	ppm	0
	8hr	0.085	ppm	7
PM 2.5	24hr	65.5	micrograms per cubic meter	0
	annual	15.05	micrograms per cubic meter	0
PM10	24hr	155	micrograms per cubic meter	2
	annual	50.5	micrograms per cubic meter	0
Sulfur dioxide	3hr	0.55	ppm	0
	24hr	0.145	ppm	0
	annual	0.0305	ppm	0
Carbon monoxide	1hr	35.5	ppm	0
	8hr	9.5	ppm	0
Nitrogen dioxide	annual	0.0535	ppm	0
Lead	quarterly	1.55	micrograms per cubic meter	N/A*

*Lead was not monitored in 2002

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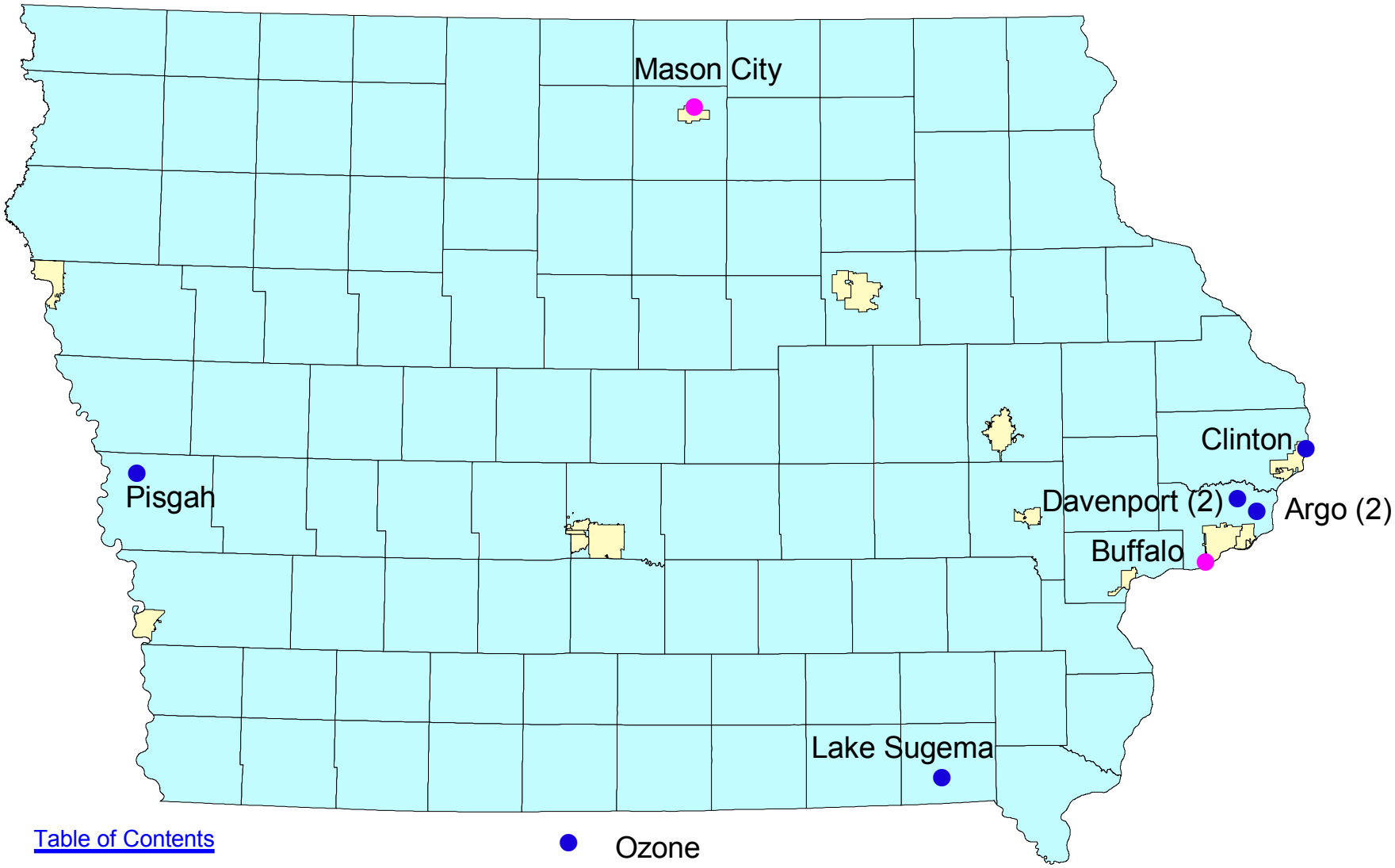
NAAQS Exceedances in 2002



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Exceedance Level and Occurrence Date

Site ID	Pollutant	Averaging Period	Exceedance Level	Number of Exceedances	Site	Date
Argo, Highway Maintenance	Ozone	8hr	94	1	Argo	6/23/2002
Argo, Highway Maintenance	Ozone	8hr	93	1	Argo	9/7/2002
Clinton, Rainbow Park	Ozone	8hr	94	1	Clinton	6/23/2002
Scott County Park	Ozone	8hr	94	1	Davenport	6/23/2002
Scott County Park	Ozone	8hr	102	1	Davenport	9/7/2002
Lake Sugema State Park	Ozone	8hr	94	1	Lake Sugema	9/7/2002
Pisgah, Highway Maintenance	Ozone	8hr	86	1	Pisgah	6/24/2002
Buffalo, LW Mining	PM10	24hr	169	1	Buffalo	3/24/2002
Mason City, Holnam Cement	PM10	24hr	168	1	Mason City	2/26/2002

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Ambient Air Monitoring Network in 2002

Site ID	Name	City	Address	County	Site Label	Pollutants
190130008	Grout Museum	Waterloo	West Park St. & South St.	Black Hawk	Waterloo, Grout Museum	PM2.5, PM10
190170011	Waverly Airport	Waverly	Waverly Airport	Bremer	Waverly, Airport	O3
190330018	Holnam Cement	Mason City	17th St. & Washington St.	Cerro Gordo	Mason City, Holnam Cement	SO2, PM10
190330019	12th and Monroe	Mason City	10th & Monroe	Cerro Gordo	Mason City, 12th & Monroe	PM2.5, PM10
190450019	Chancy Park	Clinton	23rd & Camanche	Clinton	Clinton, Chancy Park	SO2, PM10
190450021	Rainbow Park	Clinton	Roosevelt St.	Clinton	Clinton, Rainbow Park	O3, PM2.5
190550001	Backbone State Park		Fish Hatchery Backbone State Park	Delaware	Backbone State Park	PM10
190630003	Iowa Lakes College	Estherville	19 S 7th St.	Emmet	Estherville, Iowa Lakes Coll.	PM2.5, PM10
190851101	Highway Maintenance Shed	Pisgah	1575 Hwy 183	Harrison	Pisgah, Highway Maintenance	O3
191032001	Hoover Elementary	Iowa City	2200 East Court	Johnson	Iowa City, Hoover Sch.	PM2.5
191110008	Fire Station	Keokuk	111S. 13th St.	Lee	Keokuk, Fire Station	PM10
191130028	Kirkwood College	Cedar Rapids	6301 Kirkwood Blvd SW (Iowa Hall)	Linn	Cedar Rapids, Kirkwood Coll.	O3
191130029	Science Station	Cedar Rapids	1st St.& 5th Ave. SW	Linn	Cedar Rapids, Science Station	SO2, PM10
191130030	SCI Financial Group	Cedar Rapids	200 2nd Ave. SE	Linn	Cedar Rapids, SCI Financial	CO
191130031	Scottish Rite Temple	Cedar Rapids	616 A Ave.	Linn	Cedar Rapids, Scottish Rite Temple	CO, SO2
191130033	Coggon	Cedar Rapids	408 E Linn St.	Linn	Cedar Rapids, Coggon	NO2, O3
191130036	Monroe Elementary	Cedar Rapids	3200 Pioneer Ave. SE	Linn	Cedar Rapids, Monroe Sch.	PM2.5
191130037	Army Reserve Center	Cedar Rapids	1599 Wenig Rd. NE	Linn	Cedar Rapids, Army Reserve	PM2.5, PM10
191130038	Ely Rd. SW	Cedar Rapids	Ely Rd. SW	Linn	Cedar Rapids, Ely Rd. SW	SO2
191130039	Hawkeye Downs	Cedar Rapids	4400 6th St. SW	Linn	Cedar Rapids, Hawkeye Downs	SO2
191370002	Viking Lake State Park		2780 Viking Lake Road	Montgomery	Viking Lake State Park*	O3, PM2.5
191390015	Garfield School	Muscatine	1409 Wisconsin	Muscatine	Muscatine, Garfield Sch.	PM2.5, PM10
191390016	Greenwood Cemetary	Muscatine	Fletcher St. & Kimble St.	Muscatine	Muscatine, Greenwood Cemetary	SO2
191390017	Muscatine Power & Water	Muscatine	2200 Steward Rd.	Muscatine	Muscatine, Power and Water	SO2
191390020	Musser Park	Muscatine	Oregon St. & Earl Ave.	Muscatine	Muscatine, Musser Park	SO2, PM10
191471002	Iowa Lakes College	Emmetsburg	Iowa Lakes Community College - S Camp	Palo Alto	Emmetsburg, Iowa Lakes Coll.	O3, PM10
191530026	Dallas Center - Grimes School	Grimes	Main & S 5th St.	Polk	Grimes, D.C.-Grimes Sch.	PM10
191530030	Public Health Bldg.	Des Moines	1907 Carpenter	Polk	Des Moines, Public Health Bldg.	PM2.5
191530052	Tech High School	Des Moines	19th & Grand Ave.	Polk	Des Moines, Tech High	CO
191530058	Phillips School	Des Moines	1701 Lay St.	Polk	Des Moines, Phillips Sch.	NO2, O3
191530059	National By-Products	Des Moines	SE 18th & Scott St.	Polk	Des Moines, Nat. By-Products	PM10
191530061	Easter Seals	Des Moines	2916 30th St. NW	Polk	Des Moines, Easter Seals	CO
191530062	Fire Station	Johnston	6011 NW 62nd Ave.	Polk	Johnston, Fire Station	CO
191532001	Fire Station	Des Moines	9th & Mulberry St.	Polk	Des Moines, Fire Station	PM10
191532510	Indian Hills Junior High	Clive	9401 Indian Hills	Polk	Clive, Indian Hills Sch.	PM2.5
191532520	Cornell Elementary	Des Moines	5817 NE 3rd St.	Polk	Des Moines, Cornell Sch.	PM2.5
191550009	Franklin Elementary	Council Bluffs	3130 C Ave.	Pottawattamie	Council Bluffs, Franklin Sch.	PM2.5, PM10
191630014	Scott County Park	Davenport	Scott County Park	Scott	Scott County Park	NO2, O3
191630015	Jefferson Elementary	Davenport	10th St. & Vine St.	Scott	Davenport, Jefferson Sch.	SO2, PM2.5, PM10
191630017	Linwood Mining	Buffalo	11100 110th Ave.	Scott	Buffalo, LW Mining	PM10
191630018	Adams Elementary	Davenport	3029 N Division St.	Scott	Davenport, Adams Sch.	PM2.5, PM10
191630019	Black Hawk Foundry	Davenport	300 Wellman St.	Scott	Davenport, BH Foundry	PM10
191632011	Highway Maintenance Shed	Argo	Hwy Z-30 1.5 miles N of Argo	Scott	Argo, Highway Maintenance	O3
191690011	Slater Elementary	Slater	505 Linn St.	Story	Slater, Slater Sch.	O3
191692530	Meeker Elementary	Ames	300 20th St.	Story	Ames, Meeker Sch.	PM2.5
191770005	Lake Sugema State Park		PO Box 538	Van Buren	Lake Sugema State Park	O3, SO2, PM2.5, PM10
191810022	Lake Ahquabi State Park		1650 118th Ave.	Warren	Lake Ahquabi State Park	O3
191930017	Lowell Elementary	Sioux City	27th at Morgan	Woodbury	Sioux City, Lowell Sch.	PM2.5, PM10
191930018	Sergeant Bluff	Sergeant Bluff	708 Warrior Rd.	Woodbury	Sergeant Bluff	SO2

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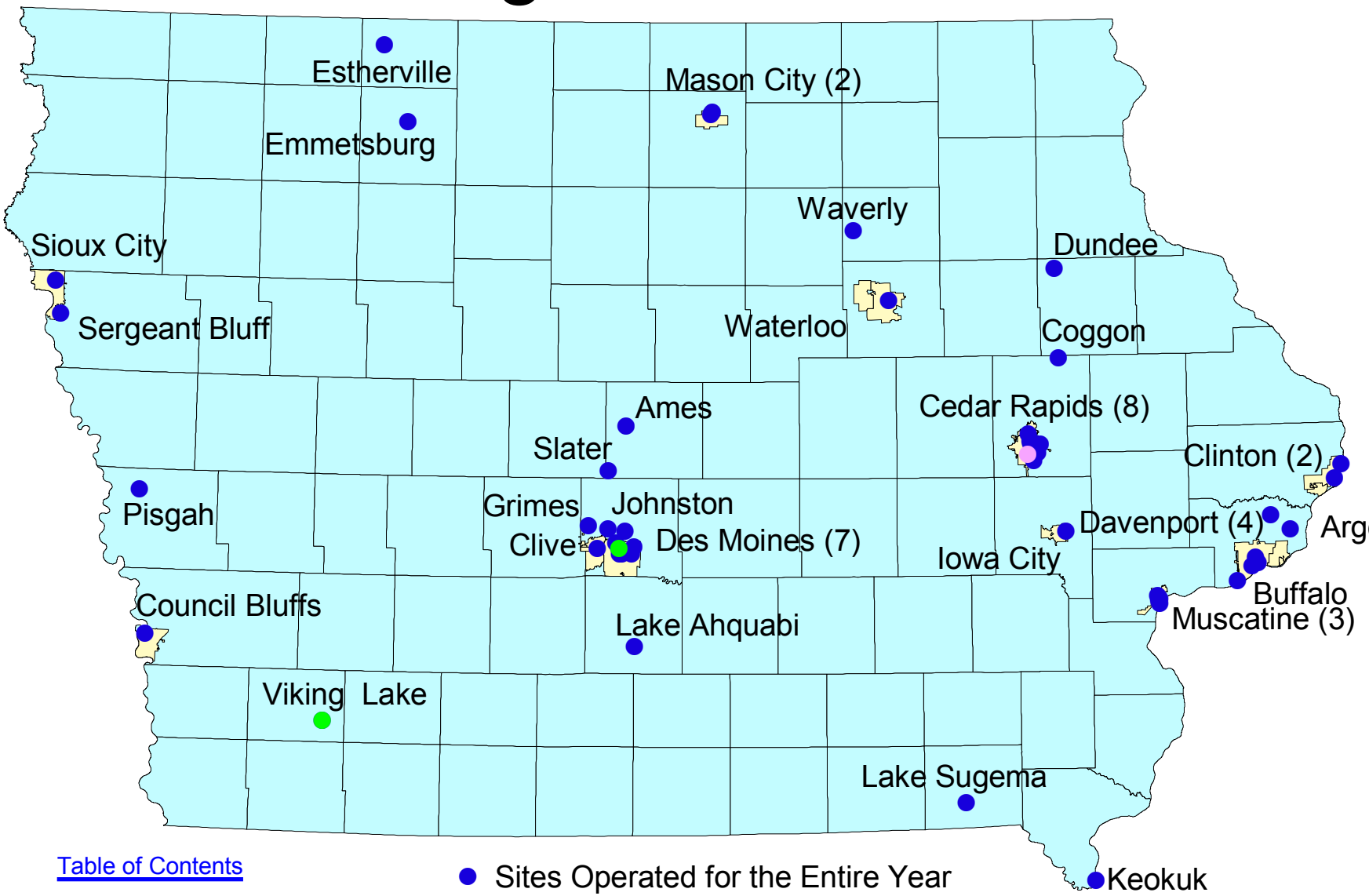
Monitoring Sites in 2002



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Site Changes

Sites Added in 2002

Site ID	Name	City	County	Site Label	Date
191530030	Public Health Bldg.	Des Moines	Polk	Des Moines, Public Health Bldg.	1/1/2002
191370002	Viking Lake State Park		Montgomery	Viking Lake State Park*	7/1/2002

Sites Removed in 2002

Site ID	Name	City	County	Site Label	Date
191130039	Hawkeye Downs	Cedar Rapids	Linn	Cedar Rapids, Hawkeye Downs	1/1/2002

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Monitor Changes

Monitors Added in 2002

None

Monitors Removed in 2002

Site ID	Name	City	County	Site Label	Pollutant	Date
191130028	Kirkwood College	Cedar Rapids	Linn	Kirkwood College	SO2	1/1/2002
191530059	National By-Products	Des Moines	Polk	National By-Products	PM2.5	1/1/2002

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Ozone Monitors

Site	Name	City	County	Site Label
190170011	Waverly Airport	Waverly	Bremer	Waverly, Airport
190450021	Rainbow Park	Clinton	Clinton	Clinton, Rainbow Park
190851101	Highway Maintenance Shed	Pisgah	Harrison	Pisgah, Highway Maintenance
191130028	Kirkwood College	Cedar Rapids	Linn	Cedar Rapids, Kirkwood Coll.
191130033	Coggon	Cedar Rapids	Linn	Cedar Rapids, Coggon
191370002	Viking Lake State Park		Montgomery	Viking Lake State Park*
191471002	Iowa Lakes College	Emmetsburg	Palo Alto	Emmetsburg, Iowa Lakes Coll.
191530058	Phillips School	Des Moines	Polk	Des Moines, Phillips Sch.
191630014	Scott County Park	Davenport	Scott	Scott County Park
191632011	Highway Maintenance Shed	Argo	Scott	Argo, Highway Maintenance
191690011	Slater Elementary	Slater	Story	Slater, Slater Sch.
191770005	Lake Sugema State Park		Van Buren	Lake Sugema State Park
191810022	Lake Ahquabi State Park		Warren	Lake Ahquabi State Park

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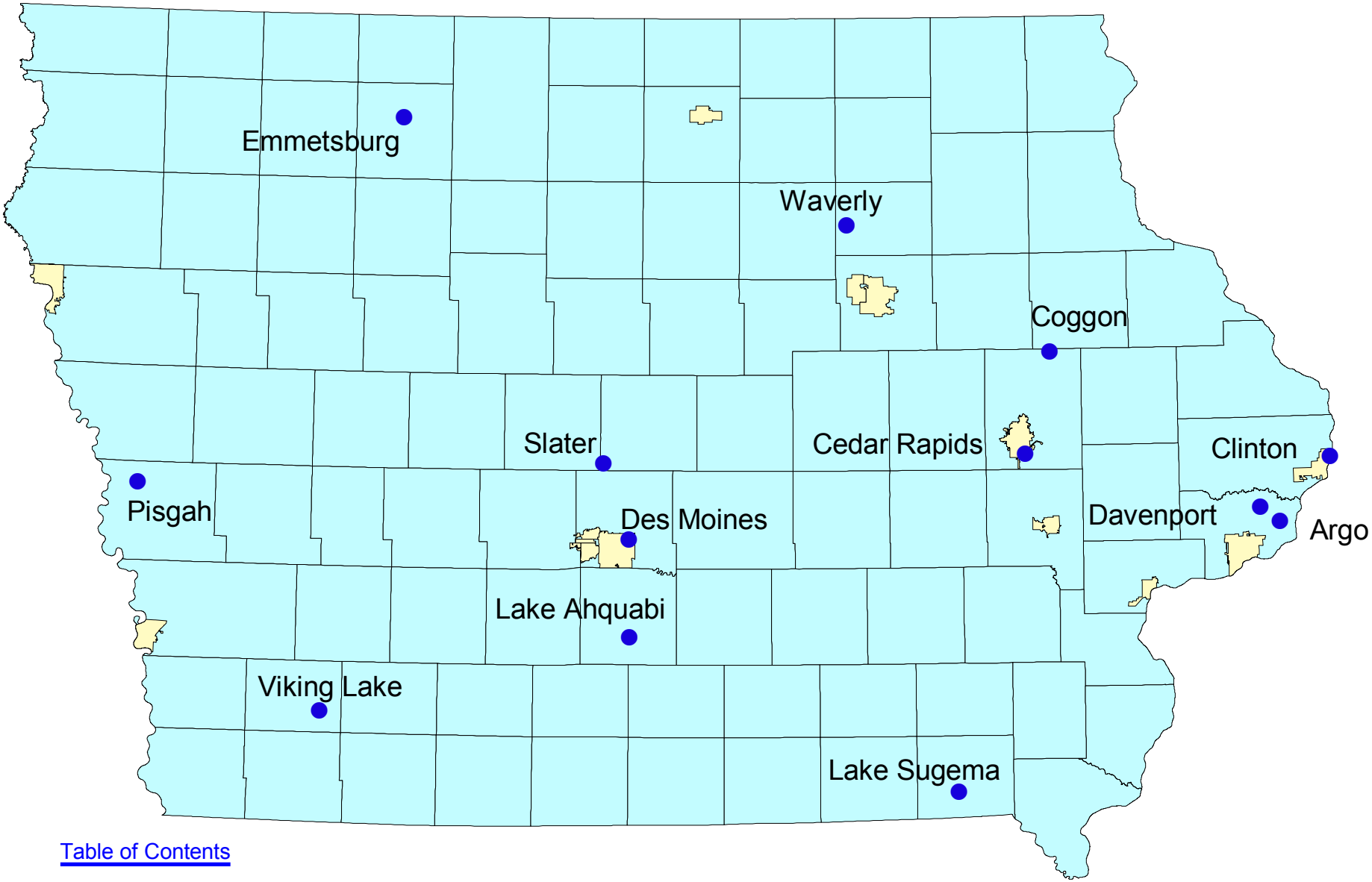
Ozone Monitors



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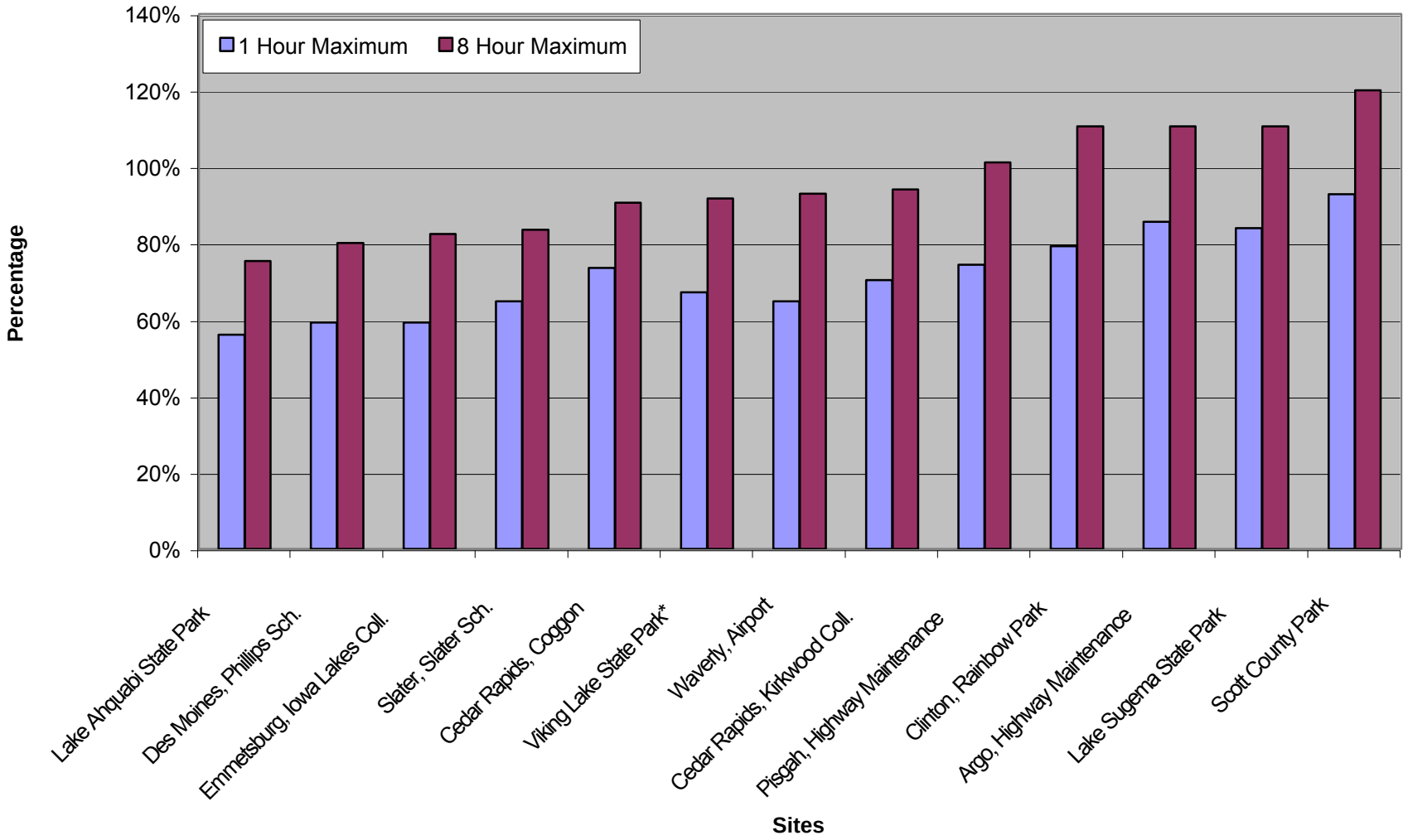
Comparison of 2002 Ozone Data with National Ambient Air Quality Standards



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What does it mean?

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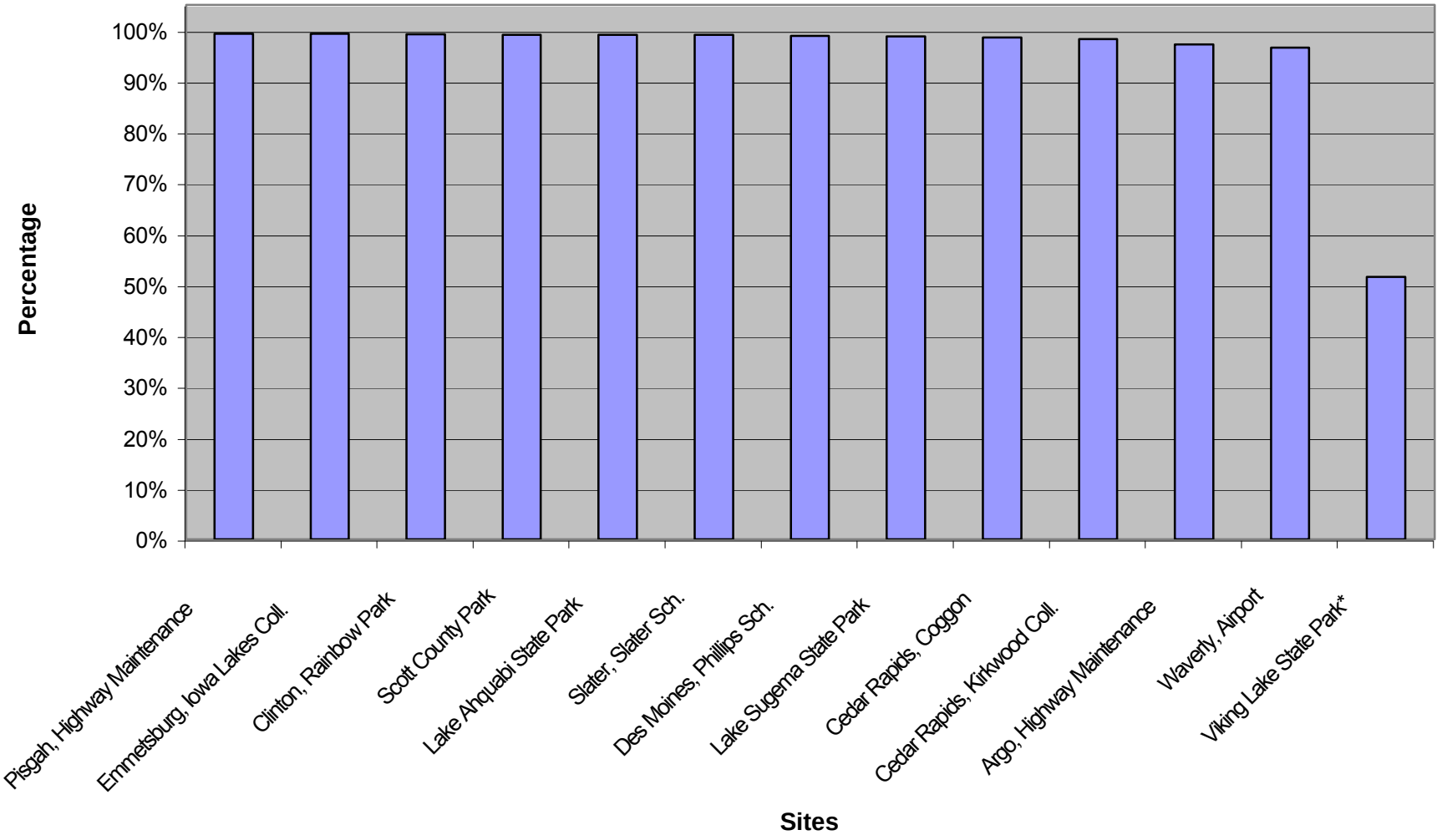

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What does it mean?

PM2.5 Monitors

Site	Name	City	County	Site Label
190130008	Grout Museum	Waterloo	Black Hawk	Waterloo, Grout Museum
190330019	12th and Monroe	Mason City	Cerro Gordo	Mason City, 12th & Monroe
190450021	Rainbow Park	Clinton	Clinton	Clinton, Rainbow Park
190630003	Iowa Lakes College	Estherville	Emmet	Estherville, Iowa Lakes Coll.
191032001	Hoover Elementary	Iowa City	Johnson	Iowa City, Hoover Sch.
191130036	Monroe Elementary	Cedar Rapids	Linn	Cedar Rapids, Monroe Sch.
191130037	Army Reserve Center	Cedar Rapids	Linn	Cedar Rapids, Army Reserve
191370002	Viking Lake State Park		Montgomery	Viking Lake State Park*
191390015	Garfield School	Muscatine	Muscatine	Muscatine, Garfield Sch.
191530030	Public Health Bldg.	Des Moines	Polk	Des Moines, Public Health Bldg.
191532510	Indian Hills Junior High	Clive	Polk	Clive, Indian Hills Sch.
191532520	Cornell Elementary	Des Moines	Polk	Des Moines, Cornell Sch.
191550009	Franklin Elementary	Council Bluffs	Pottawattamie	Council Bluffs, Franklin Sch.
191630015	Jefferson Elementary	Davenport	Scott	Davenport, Jefferson Sch.
191630018	Adams Elementary	Davenport	Scott	Davenport, Adams Sch.
191692530	Meeker Elementary	Ames	Story	Ames, Meeker Sch.
191770005	Lake Sugema State Park		Van Buren	Lake Sugema State Park
191930017	Lowell Elementary	Sioux City	Woodbury	Sioux City, Lowell Sch.

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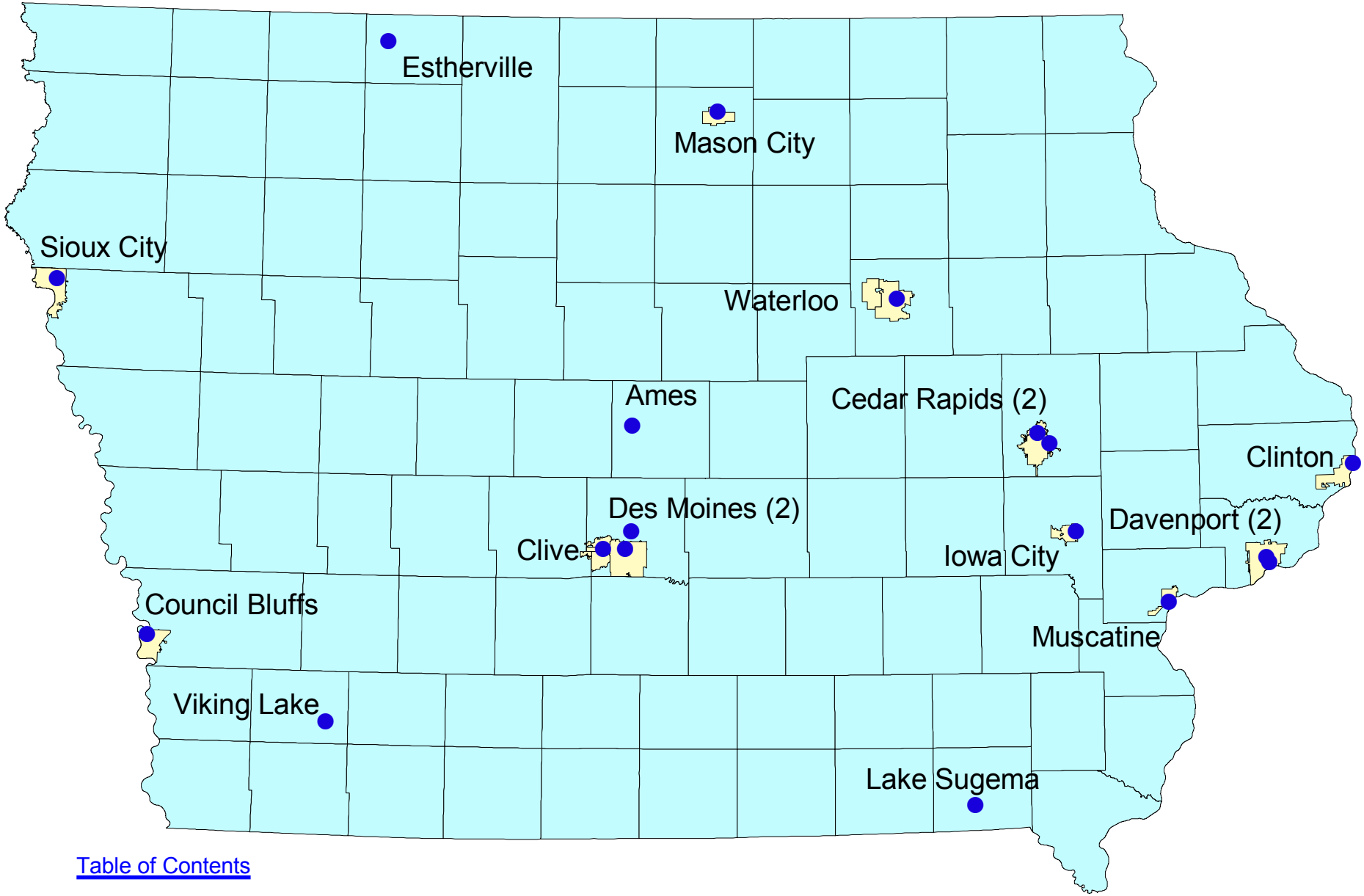
PM2.5 Monitors



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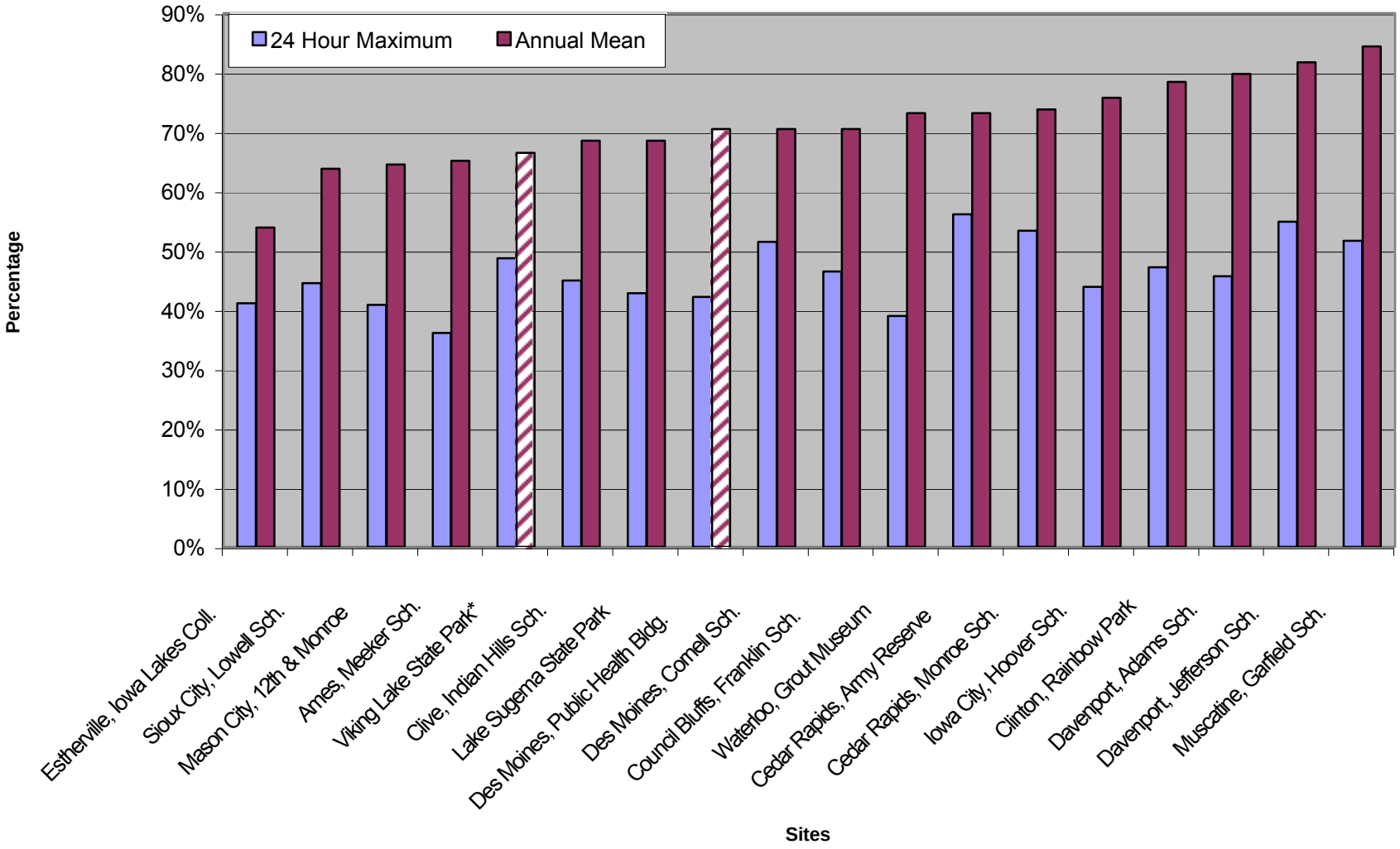
Comparison of 2002 PM2.5 Data with National Ambient Air Quality Standards



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What does it mean?

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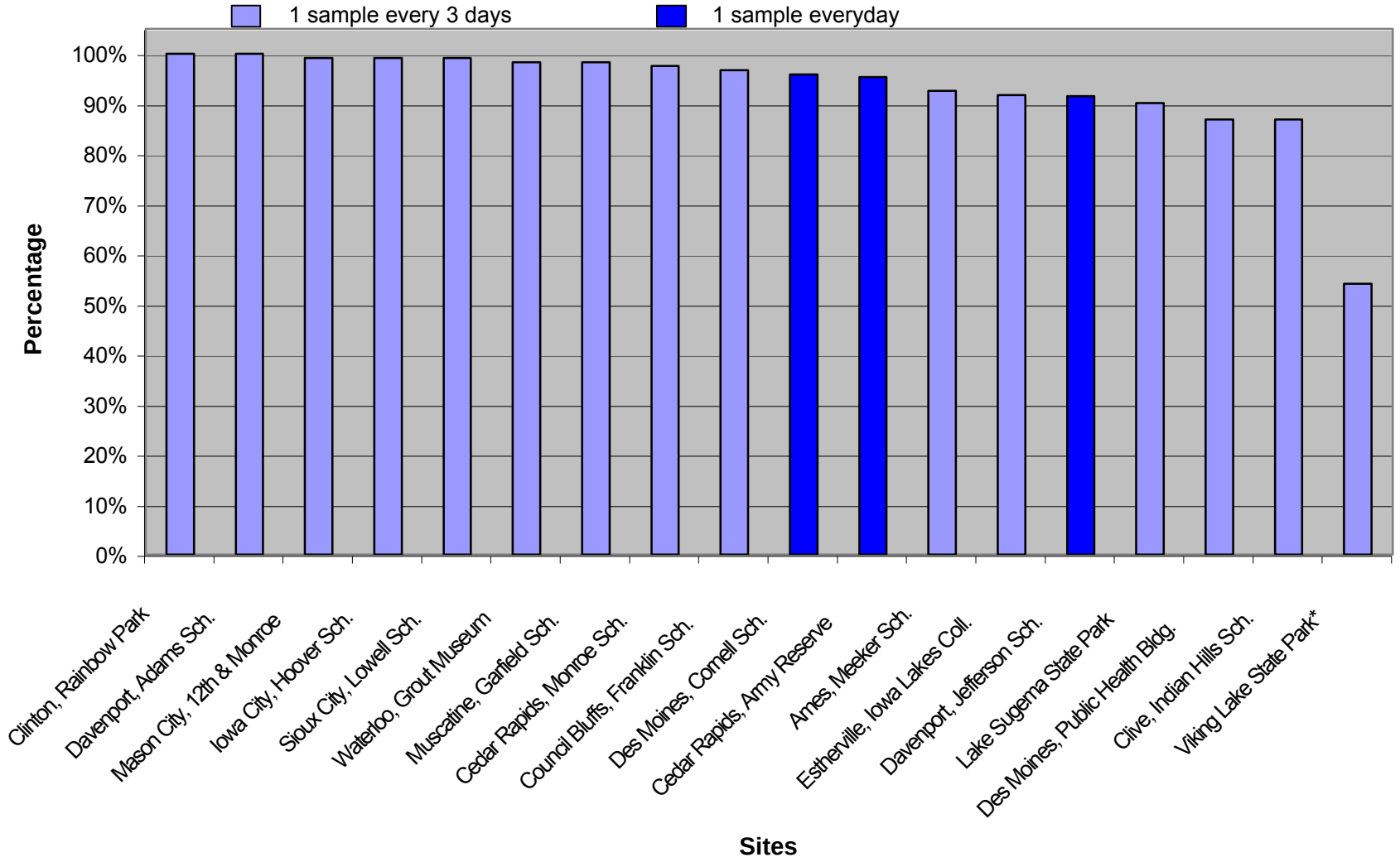

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What does it mean?

PM10 Monitors

Site	Name	City	County	Site Label
190130008	Grout Museum	Waterloo	Black Hawk	Waterloo, Grout Museum
190330018	Holnam Cement	Mason City	Cerro Gordo	Mason City, Holnam Cement
190330019	12th and Monroe	Mason City	Cerro Gordo	Mason City, 12th & Monroe
190450019	Chancy Park	Clinton	Clinton	Clinton, Chancy Park
190550001	Backbone State Park		Delaware	Backbone State Park
190630003	Iowa Lakes College	Estherville	Emmet	Estherville, Iowa Lakes Coll.
191110008	Fire Station	Keokuk	Lee	Keokuk, Fire Station
191130029	Science Station	Cedar Rapids	Linn	Cedar Rapids, Science Station
191130037	Army Reserve Center	Cedar Rapids	Linn	Cedar Rapids, Army Reserve
191390015	Garfield School	Muscatine	Muscatine	Muscatine, Garfield Sch.
191390020	Musser Park	Muscatine	Muscatine	Muscatine, Musser Park
191471002	Iowa Lakes College	Emmetsburg	Palo Alto	Emmetsburg, Iowa Lakes Coll.
191530026	Dallas Center - Grimes School	Grimes	Polk	Grimes, D.C.-Grimes Sch.
191530059	National By-Products	Des Moines	Polk	Des Moines, Nat. By-Products
191532001	Fire Station	Des Moines	Polk	Des Moines, Fire Station
191550009	Franklin Elementary	Council Bluffs	Pottawattamie	Council Bluffs, Franklin Sch.
191630015	Jefferson Elementary	Davenport	Scott	Davenport, Jefferson Sch.
191630017	Linwood Mining	Buffalo	Scott	Buffalo, LW Mining
191630018	Adams Elementary	Davenport	Scott	Davenport, Adams Sch.
191630019	Black Hawk Foundry	Davenport	Scott	Davenport, BH Foundry
191770005	Lake Sugema State Park		Van Buren	Lake Sugema State Park
191930017	Lowell Elementary	Sioux City	Woodbury	Sioux City, Lowell Sch.

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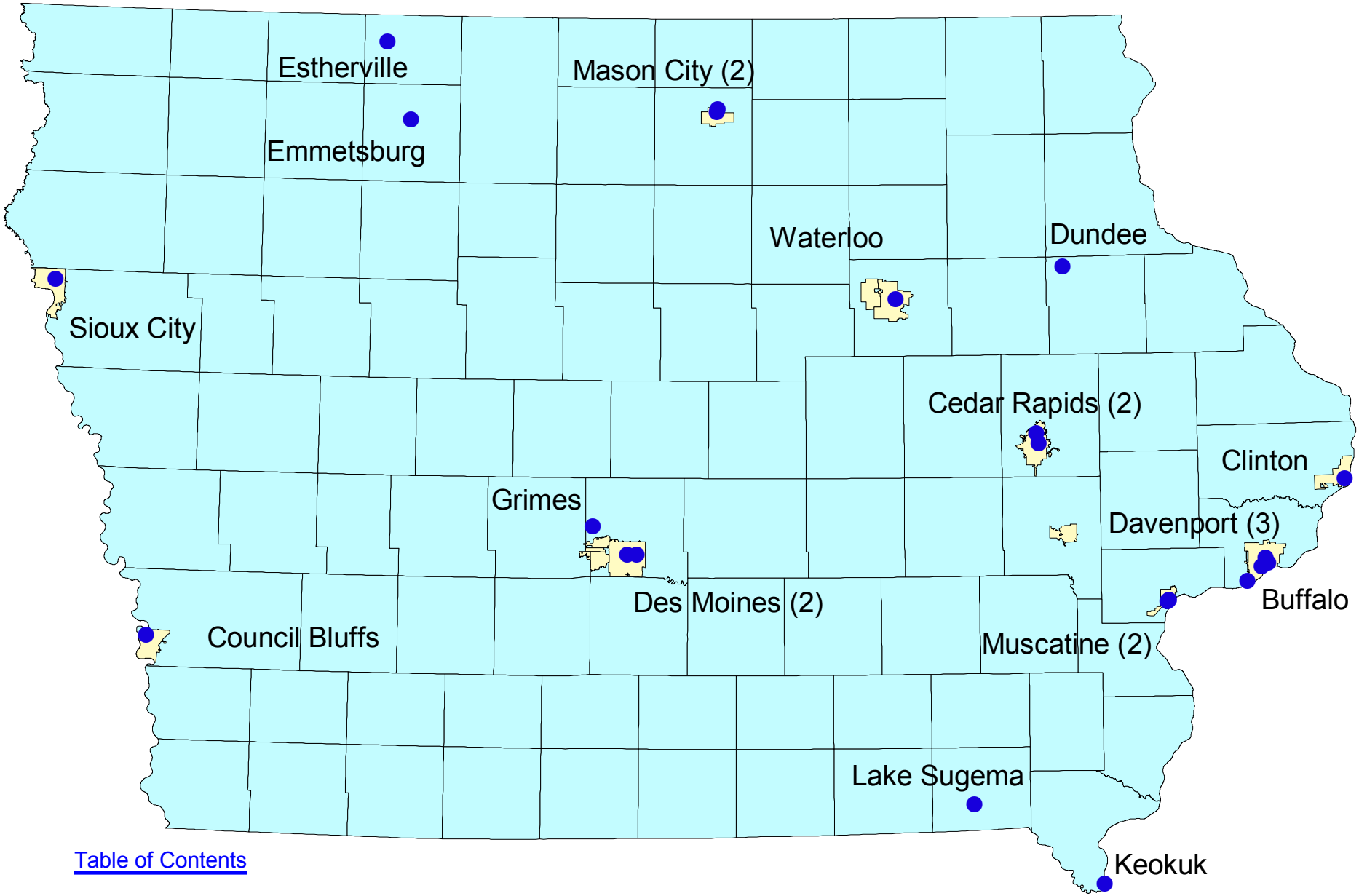
PM10 Monitors



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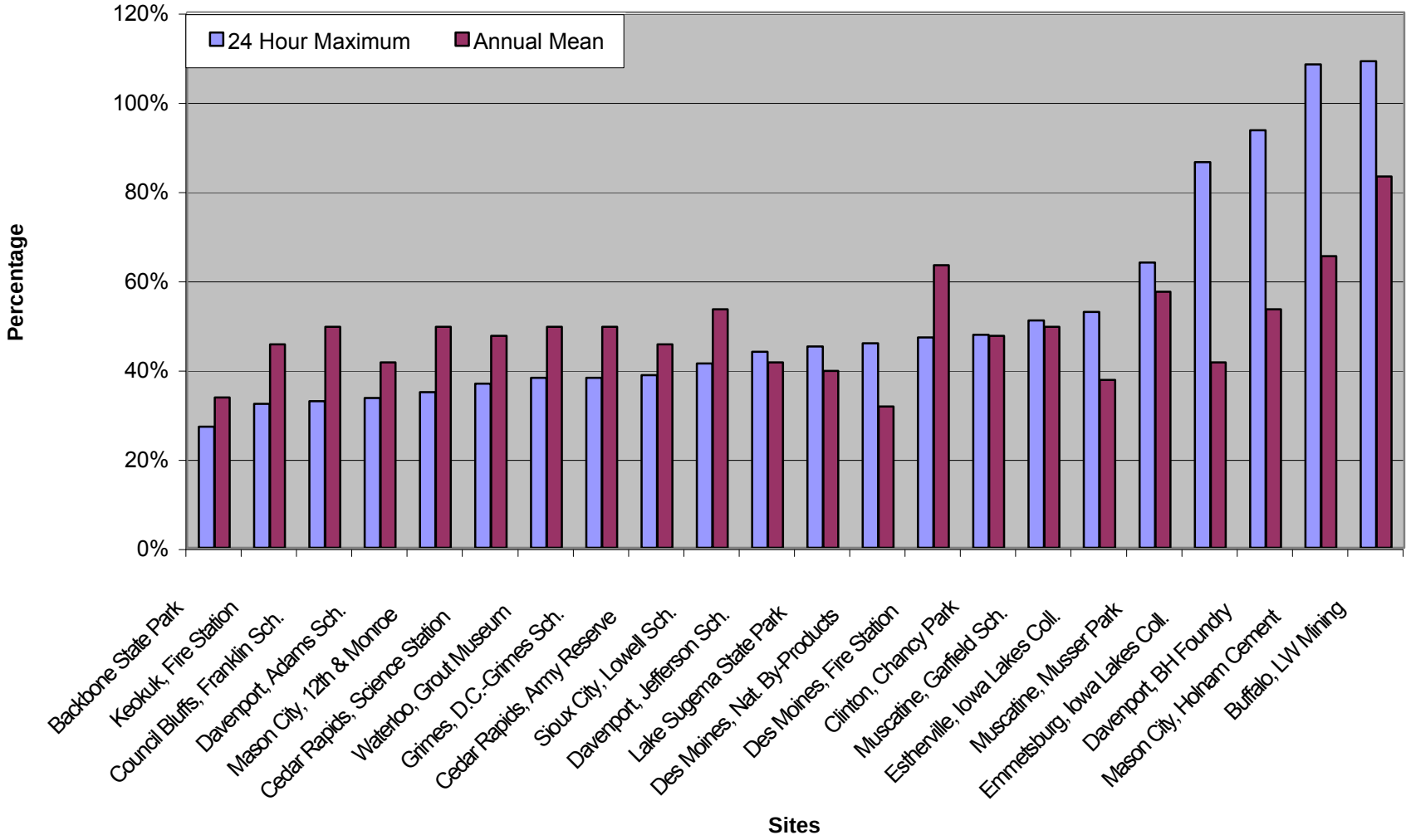
Comparison of 2002 PM10 Data with National Ambient Air Quality Standards



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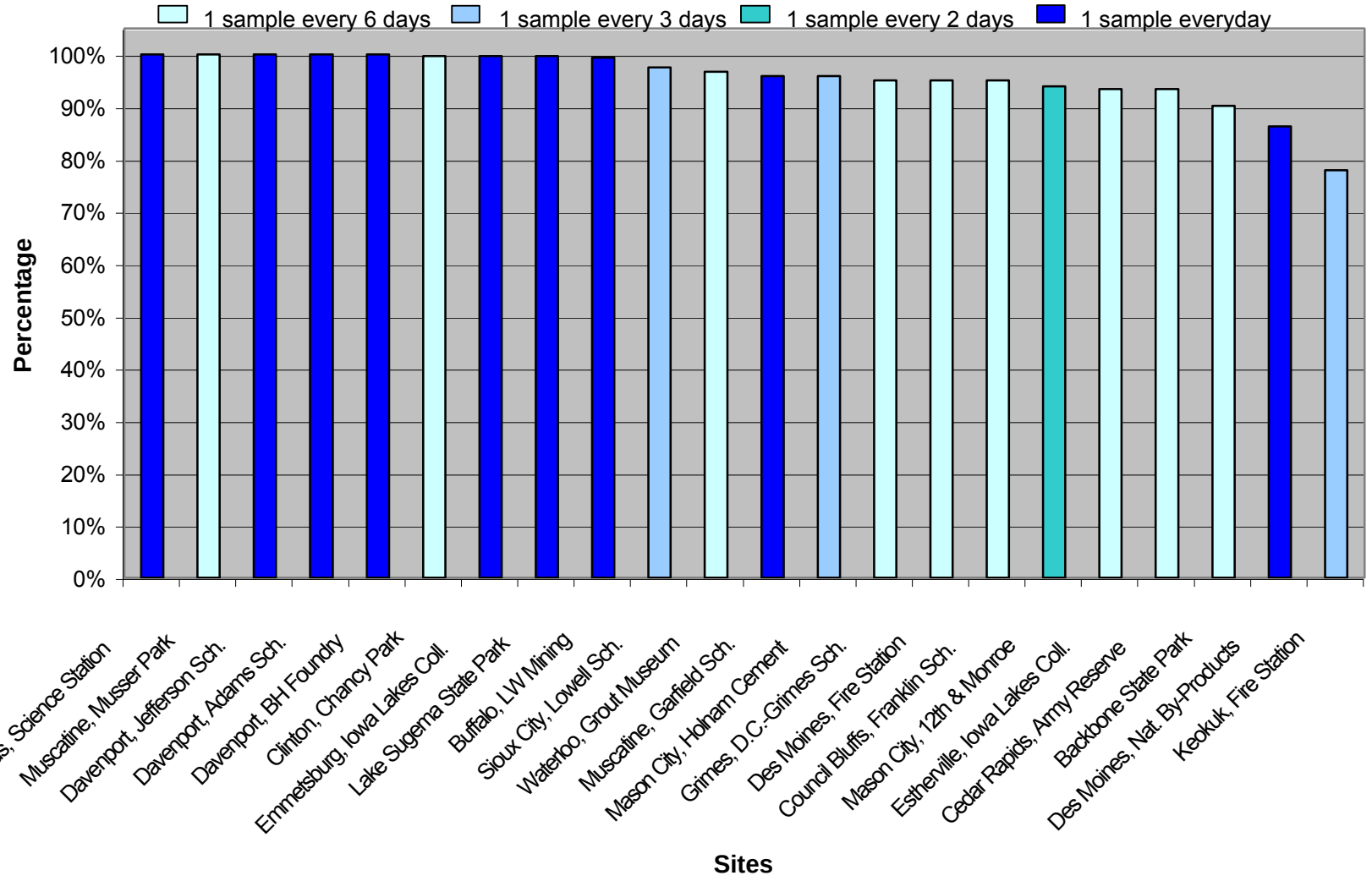
What does it mean?

Data Capture PM10



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What does it mean?

Sulfur Dioxide Monitors

Site ID	Name	City	County	Site Label
190330018	Holnam Cement	Mason City	Cerro Gordo	Mason City, Holnam Cement
190450019	Chancy Park	Clinton	Clinton	Clinton, Chancy Park
191130029	Science Station	Cedar Rapids	Linn	Cedar Rapids, Science Station
191130031	Scottish Rite Temple	Cedar Rapids	Linn	Cedar Rapids, Scottish Rite Temple
191130038	Ely Rd. SW	Cedar Rapids	Linn	Cedar Rapids, Ely Rd. SW
191390016	Greenwood Cemetary	Muscatine	Muscatine	Muscatine, Greenwood Cemetary
191390017	Muscatine Power & Water	Muscatine	Muscatine	Muscatine, Power and Water
191390020	Musser Park	Muscatine	Muscatine	Muscatine, Musser Park
191630015	Jefferson Elementary	Davenport	Scott	Davenport, Jefferson Sch.
191770005	Lake Sugema State Park		Van Buren	Lake Sugema State Park
191930018	Sergeant Bluff	Sergeant Bluff	Woodbury	Sergeant Bluff

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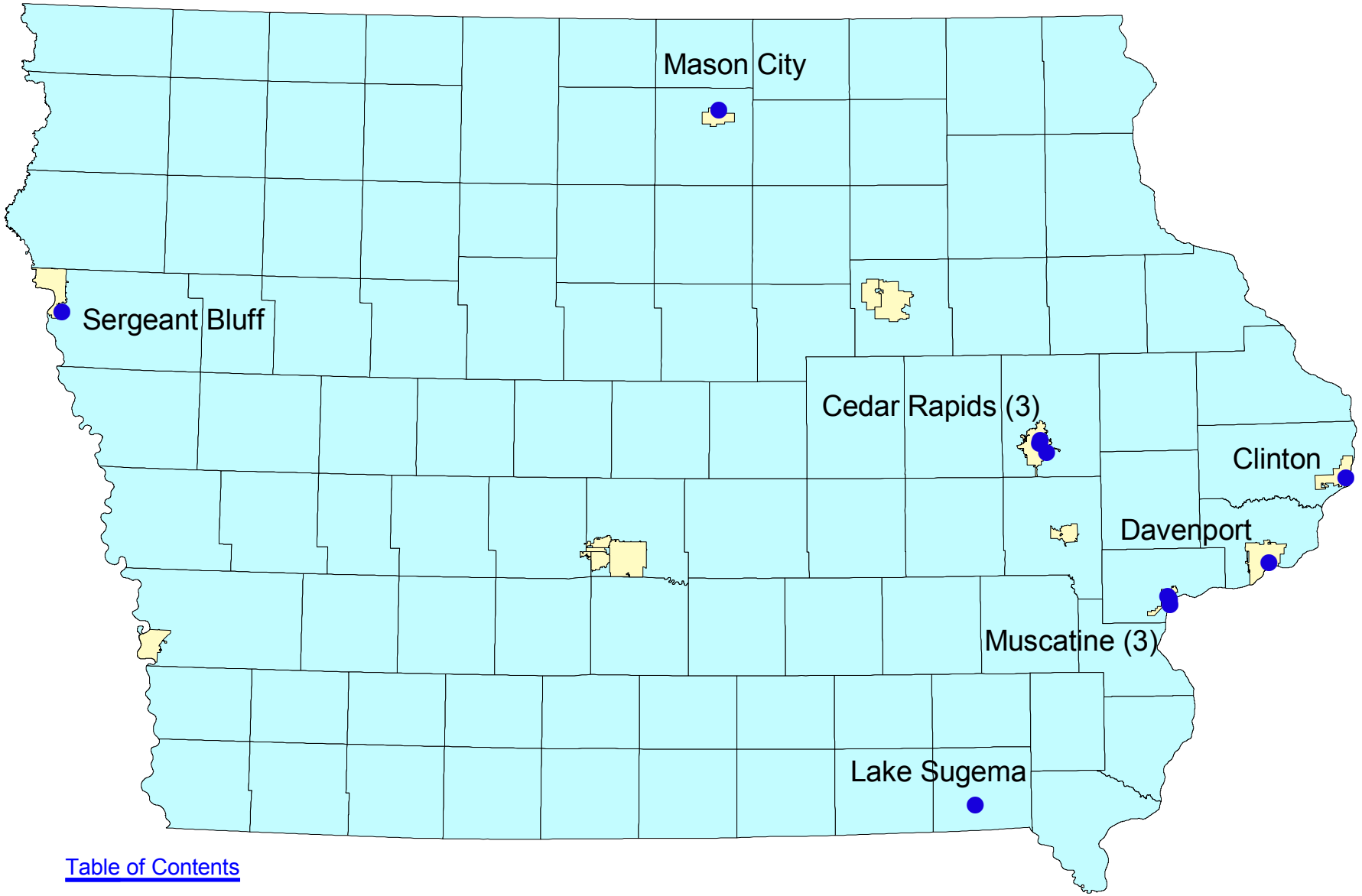
Sulfur Dioxide Monitors



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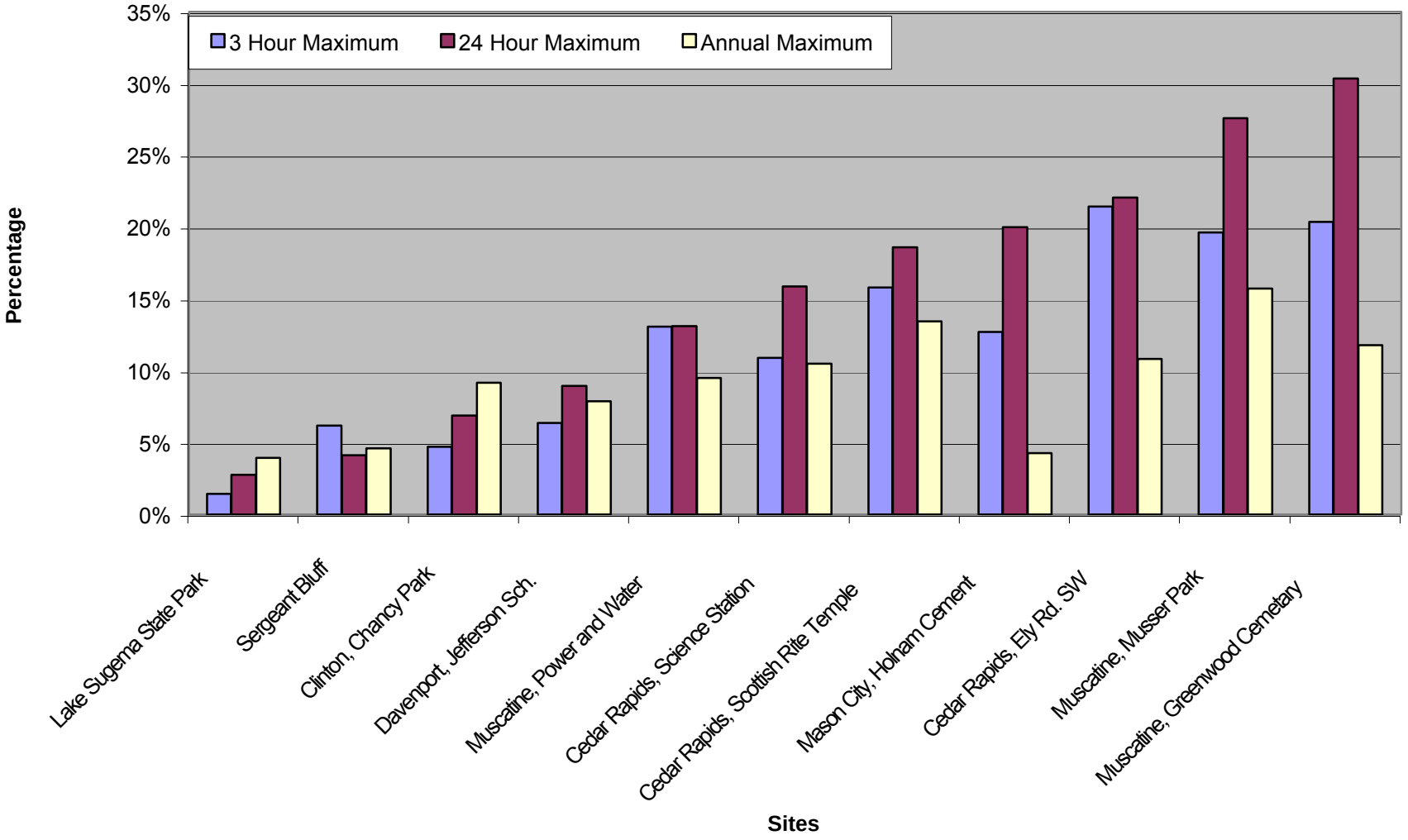
Comparison of 2002 Sulfur Dioxide Data with National Ambient Air Quality Standards



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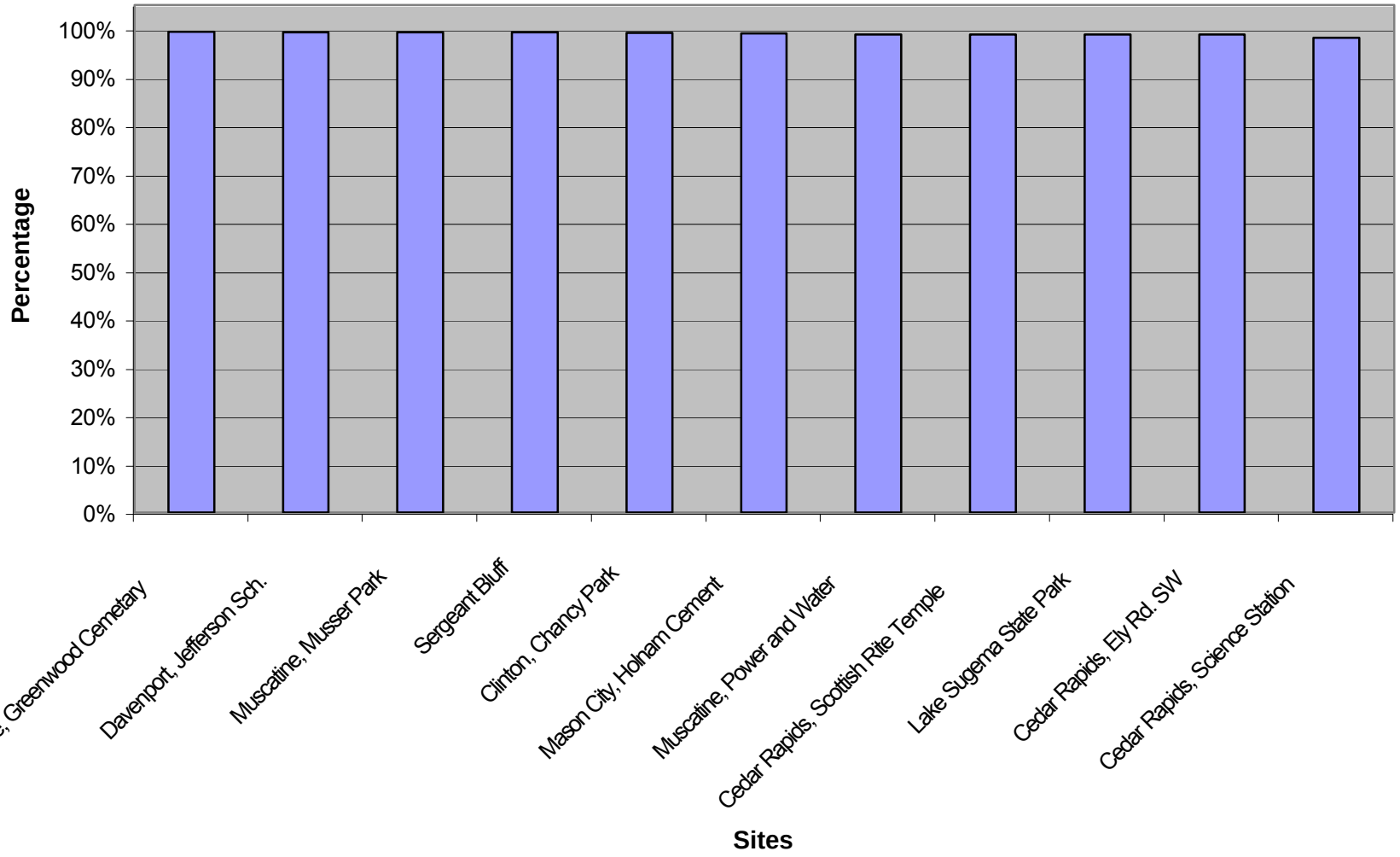
What does it mean?

Data Capture - Sulfur Dioxide



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What does it mean?

Carbon Monoxide Monitors

Site	Name	City	County	Site Label
191130030	SCI Financial Group	Cedar Rapids	Linn	Cedar Rapids, SCI Financial
191130031	Scottish Rite Temple	Cedar Rapids	Linn	Cedar Rapids, Scottish Rite Temple
191530052	Tech High School	Des Moines	Polk	Des Moines, Tech High
191530061	Easter Seals	Des Moines	Polk	Des Moines, Easter Seals
191530062	Fire Station	Johnston	Polk	Johnston, Fire Station

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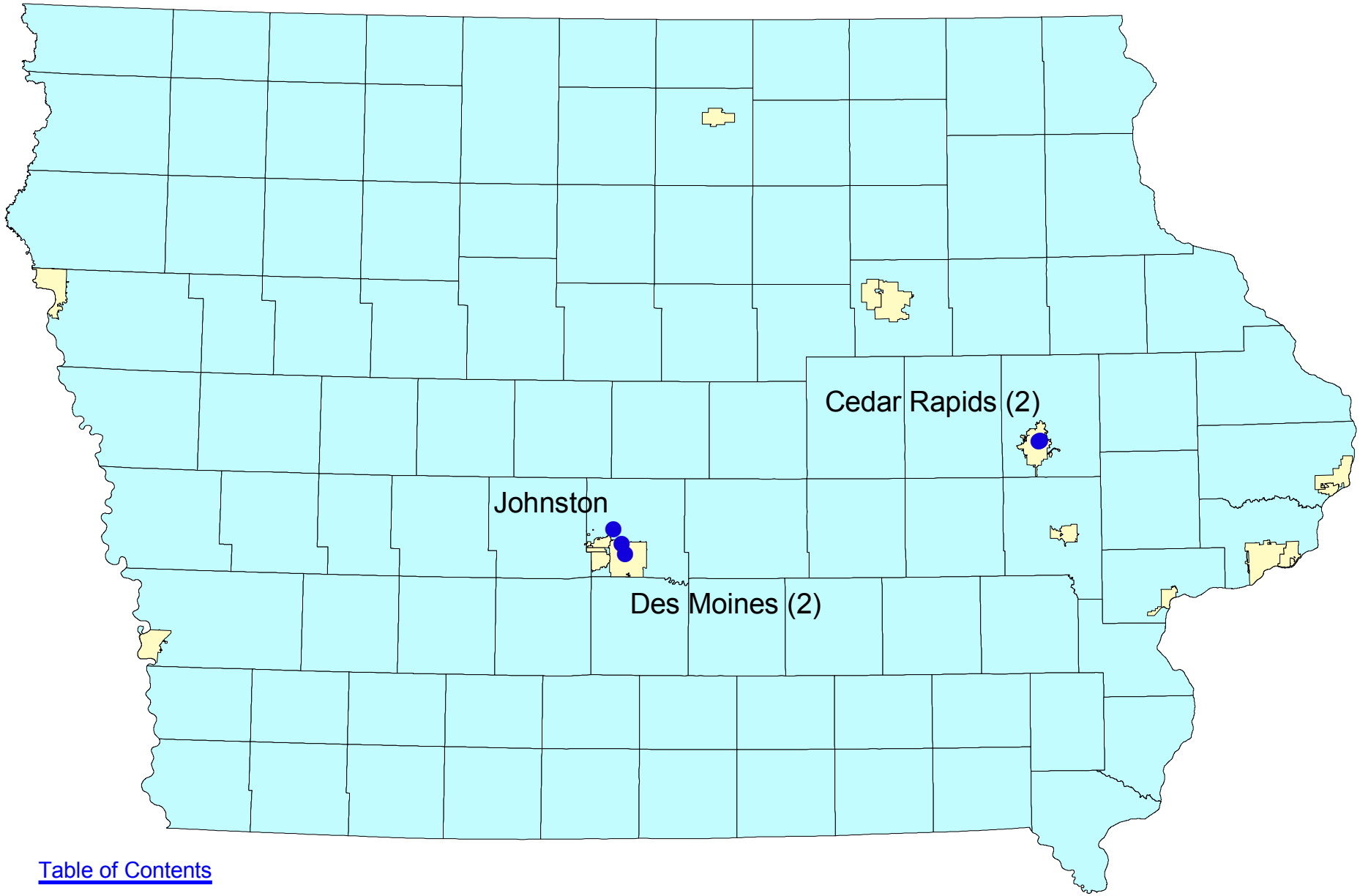
Carbon Monoxide Monitors



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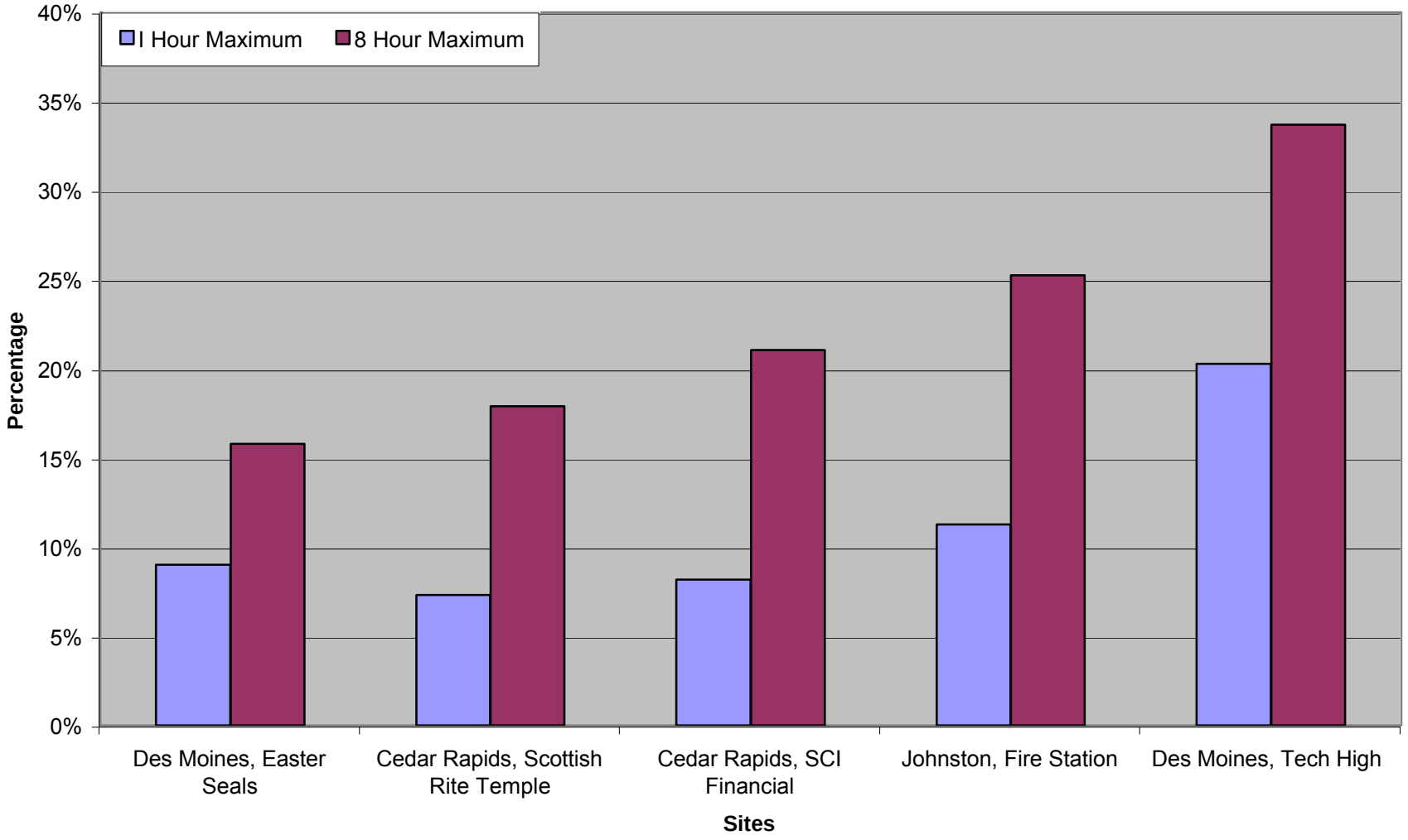
Comparison of 2002 Carbon Monoxide Data with National Ambient Air Quality Standards



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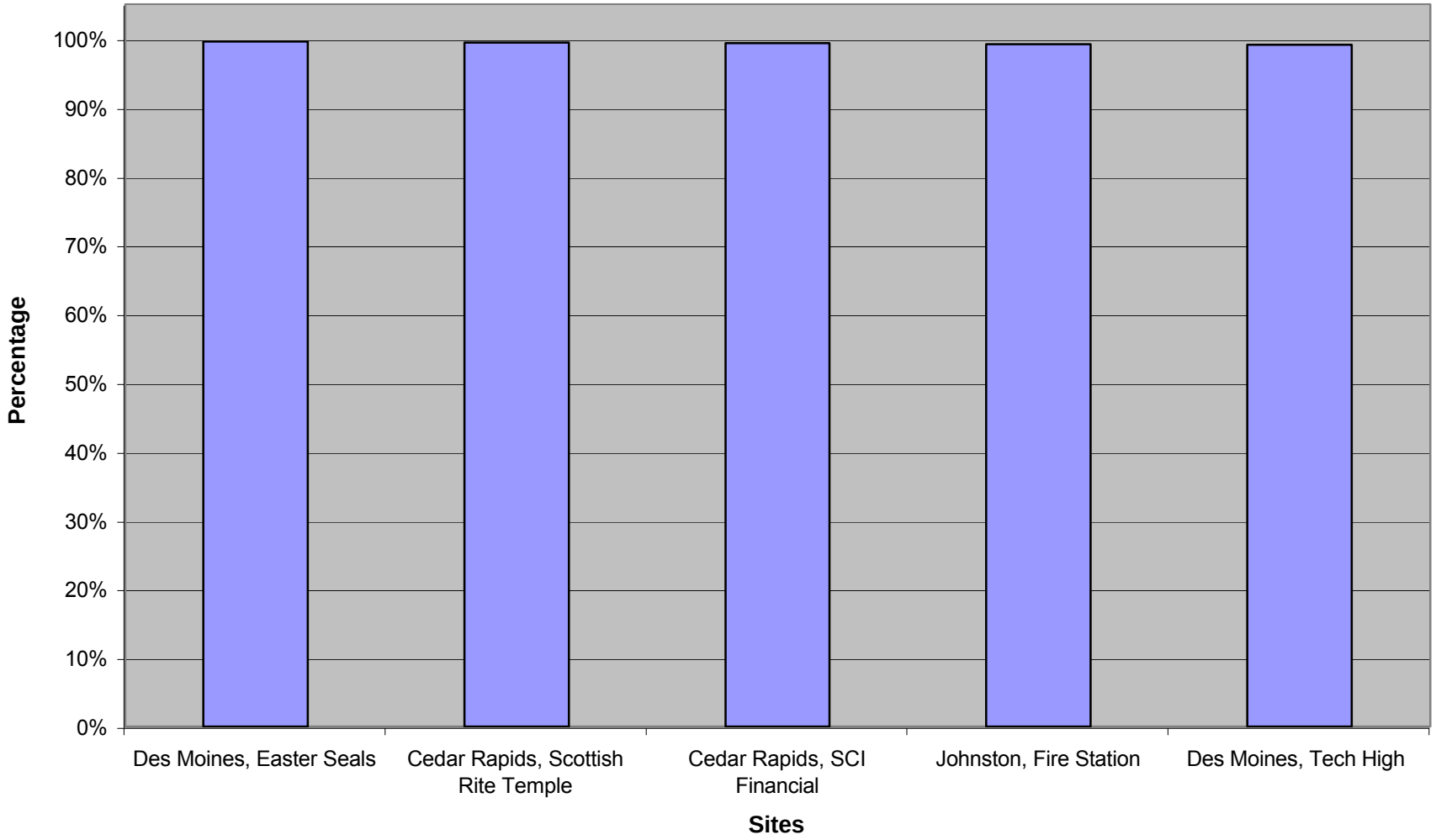
What does it mean?

Data Capture - Carbon Monoxide



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What does it mean?

Nitrogen Dioxide Monitors

Site	Name	City	County	Site Label
191130033	Coggon	Cedar Rapids	Linn	Cedar Rapids, Coggon
191530058	Phillips School	Des Moines	Polk	Des Moines, Phillips Sch.
191630014	Scott County Park	Davenport	Scott	Scott County Park

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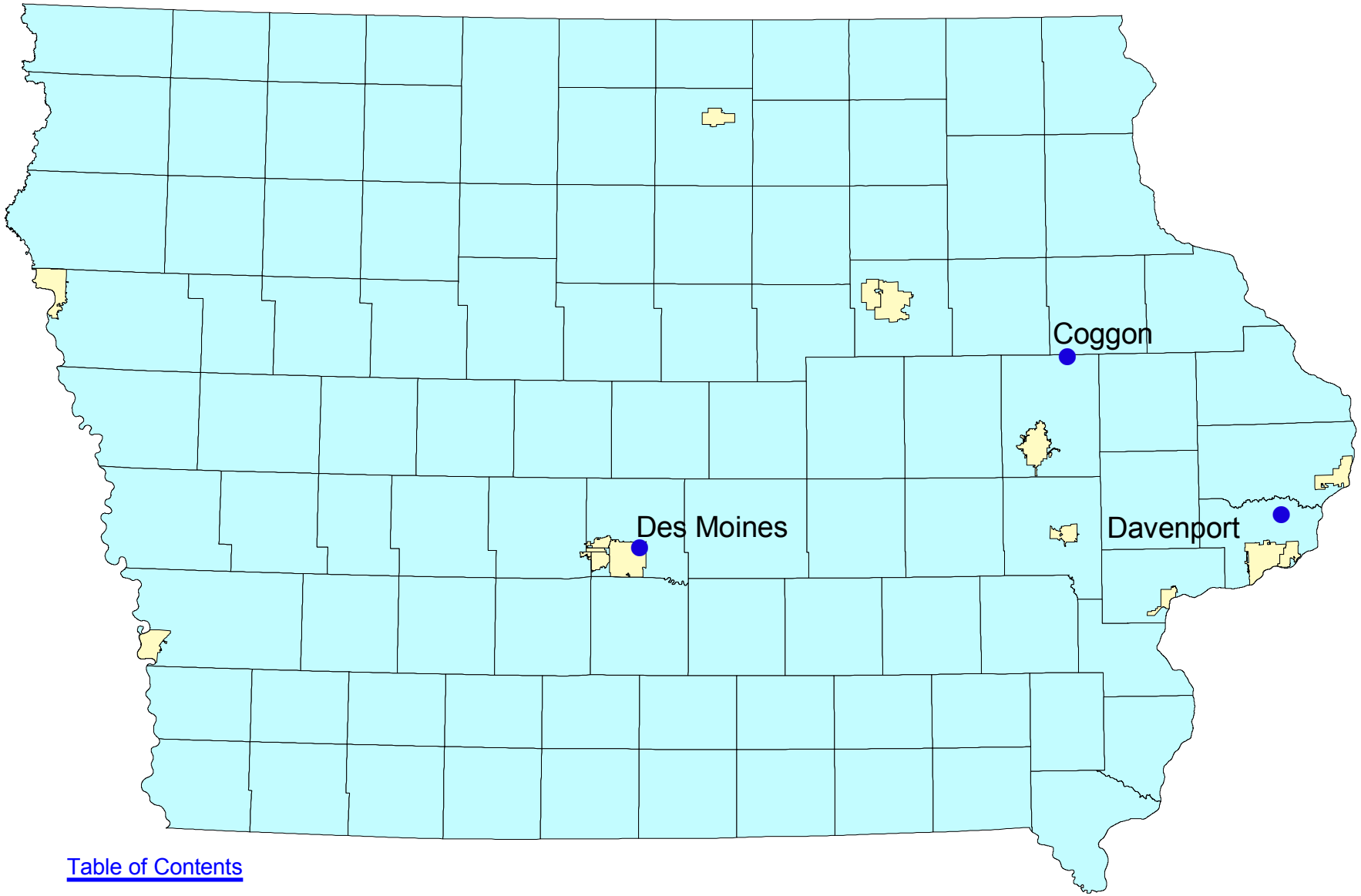
Nitrogen Dioxide Monitors



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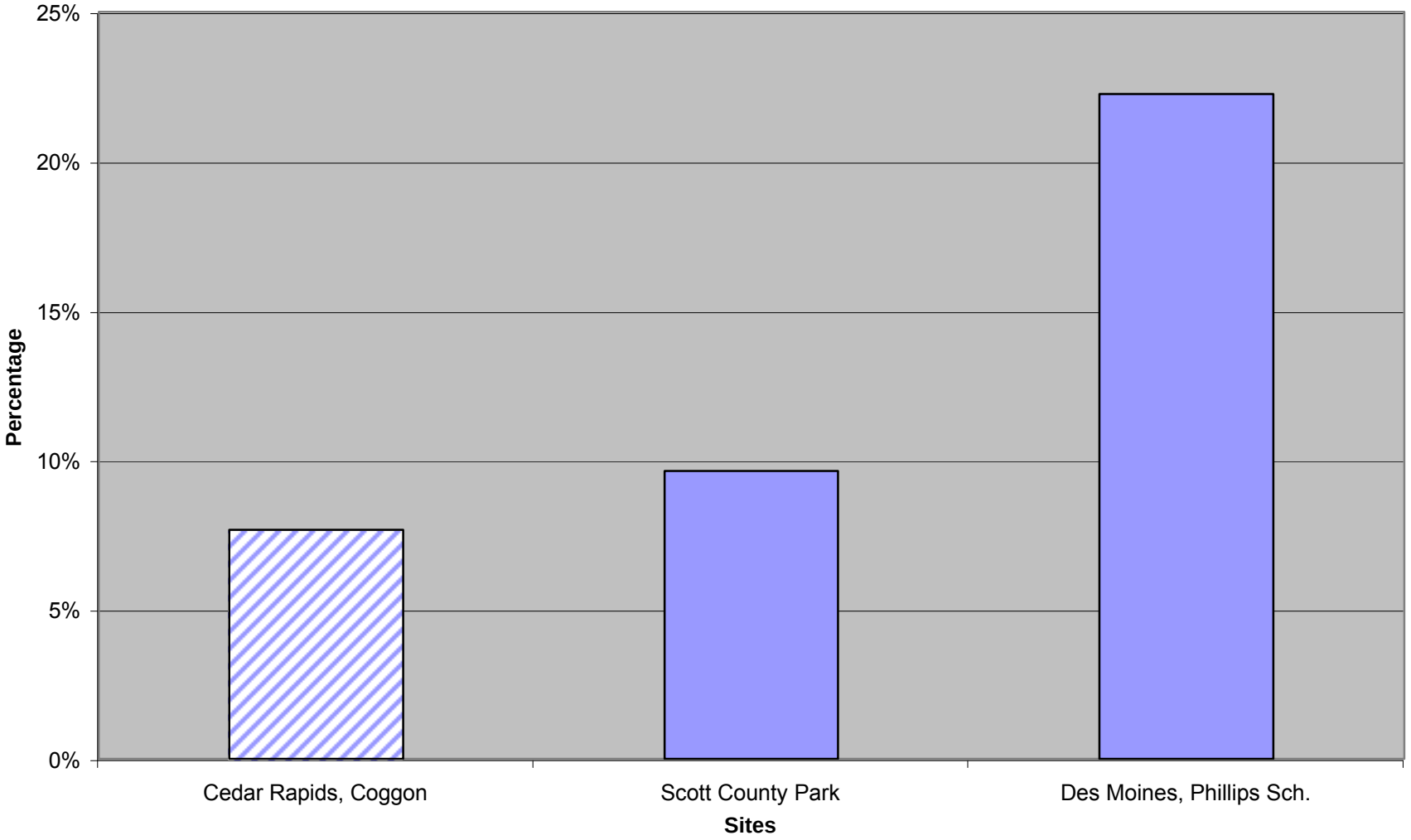
Comparison of 2002 Nitrogen Dioxide Data with National Ambient Air Quality Standards



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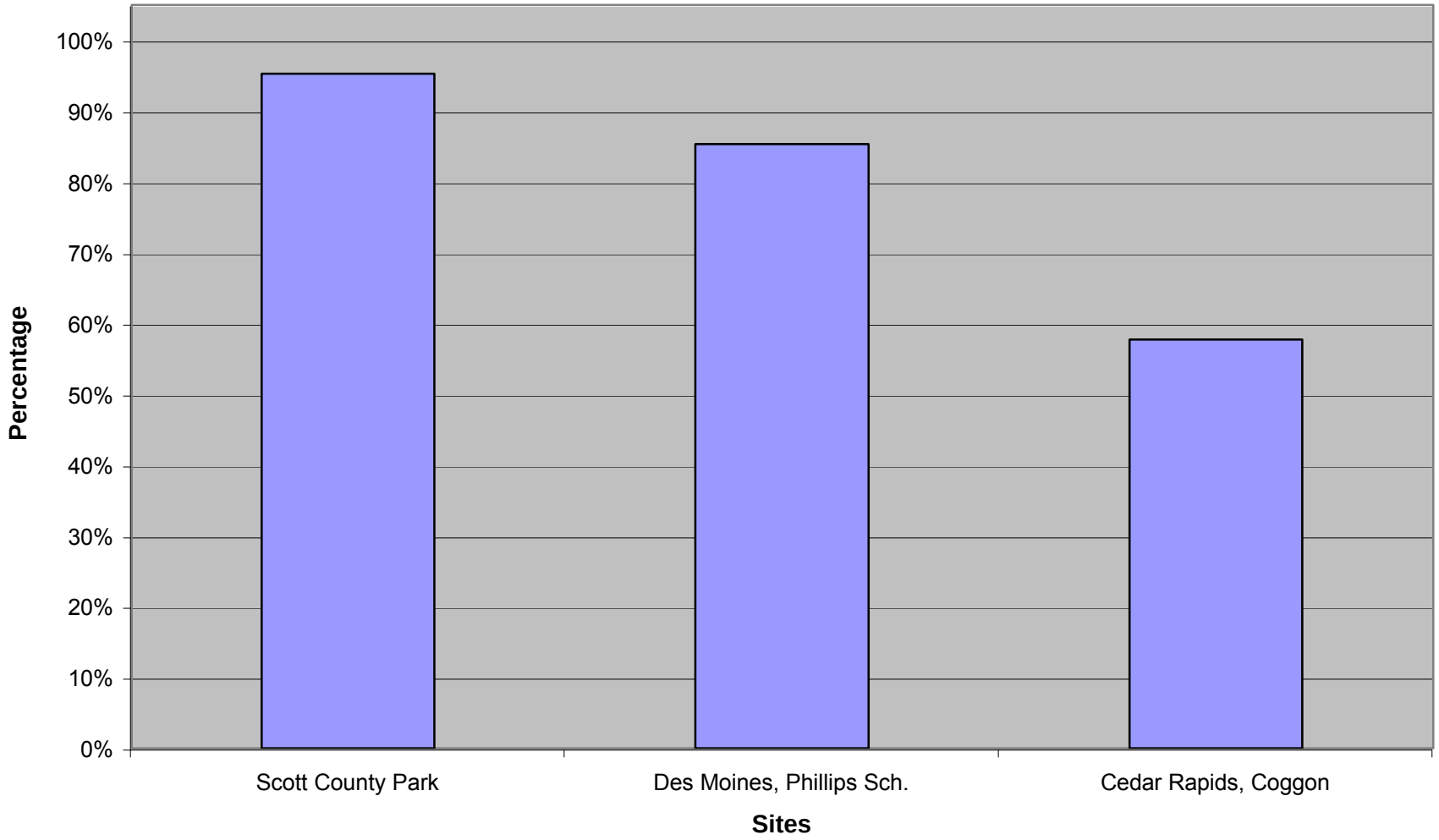
What does it mean?

Data Capture - Nitrogen Dioxide



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What does it mean?

Additional Chart Information

Listed below is additional information that may be useful in interpreting the charts contained in this review

Ozone

Comparison of 2002 Ozone Data with National Ambient Air Quality Standards

This graph shows the highest hourly ozone average (expressed as a percentage of the 0.125 ppm one-hour NAAQS) and highest eight-hour ozone average (expressed as a percentage of the 0.085 ppm eight-hour NAAQS) for each ozone monitor operated in 2002.

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Data Capture-Ozone

This graph shows the total number of hourly ozone values (expressed as a percentage of the total number of hours in the ozone season) for each ozone monitor operated in 2002. Ozone season runs from April through October; this amounts to 214 days or 5136 hours. An ozone monitor that recorded data for all 5136 hours of the ozone season would have a data capture rate of 100%

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PM2.5

Comparison of 2002 PM2.5 Data with National Ambient Air Quality Standards

This graph shows the highest 24-hour value (expressed as a percentage of the 65.5 $\mu g/m^3$ 24-hour NAAQS), and the annual average (expressed as a percentage of the 15.05 $\mu g/m^3$ annual NAAQS) for each PM2.5 monitor operated in 2002.

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Data Capture – PM2.5

For each PM2.5 monitor operated in 2002, this graph shows the fraction of scheduled sampling days in 2002 where a PM2.5 sample was actually collected. During 2002, PM2.5 samplers in Iowa were scheduled to operate at a sampling frequency of either one sample every third day (122 scheduled samples or one sample each day (365 scheduled samples). The sampling frequency of each monitor is indicated in the legend of the graph.

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PM10

Comparison of 2002 PM10 Data with National Ambient Air Quality Standards

This graph shows the highest 24-hour value (expressed as a percentage of the 155 $\mu g/m^3$ 24-hour NAAQS), and the annual average (expressed as a percentage of the 50.0 $\mu g/m^3$ annual NAAQS) for each PM10 monitor operated in 2002.

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Data Capture – PM10

For each PM10 monitor operated in 2002, This graph shows the fraction of scheduled sampling days in 2002 where a PM10 sample was actually collected. During 2002, PM10 samplers in Iowa were scheduled to operate at a frequency of one sample every sixth day (61 scheduled samples), one sample every third day (122 scheduled samples), one sample every other day (182 scheduled samples) or one sample each day (365 scheduled samples). The sampling frequency of each monitor is indicated in the legend of the graph.

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Sulfur Dioxide

Comparison of 2002 Sulfur dioxide Data with National Ambient Air Quality Standards

This graph shows the highest 3-hour value (expressed as a percentage of the 0.55 ppm 3-hour NAAQS), the highest 24-hour value (expressed as a percentage of the 0.145 ppm 24-hour NAAQS), and the annual average (expressed as a percentage of the 0.0305 ppm annual NAAQS) for each sulfur dioxide monitor operated in 2002.

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Data Capture-Sulfur Dioxide

This graph shows total number of hourly sulfur dioxide values (expressed as a percentage of the total number of hours in 2002) for each sulfur dioxide monitor that operated in 2002. A sulfur dioxide monitor that recorded data for all 8760 hours during 2002 would have a data capture rate of 100%.

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Carbon Monoxide

Comparison of 2002 Carbon Monoxide Data with National Ambient Air Quality Standards

This graph shows the highest 1-hour value (expressed as a percentage of the 35.5 ppm 1-hour NAAQS), the highest 8-hour values (expressed as a percentage of the 9.5 ppm 8-hour NAAQS) for each carbon monoxide monitor operated in 2002.

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Data Capture-Carbon Monoxide

This graph shows total number of hourly carbon monoxide values (expressed as a percentage of the total number of hours in 2002. A carbon monoxide monitor that recorded data for all 8760 hours during 2002 would have a data capture rate of 100%.

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Nitrogen Dioxide

Comparison of 2002 Nitrogen Dioxide Data with National Ambient Air Quality Standards

This graph shows the annual average (expressed as a percentage of the 0.0535 ppm annual NAAQS) for each monitoring site that operated in 2002.

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Data Capture – Nitrogen Dioxide

This graph shows total number of hourly nitrogen dioxide values, expressed as a percentage of the total number of hours in 2002. A nitrogen dioxide monitor that recorded data for all 8760 hours during 2002 would have a data capture rate of 100%.

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